SITE HEALTH and SAFETY PLAN

For

SCRAP IRON REMOVAL

DRAFT

at

Chicago Heights Iron & Supply Co.
1715 Wentworth Avenue
Chicago Heights, Illinois

Prepared for

Nicor Gas

Prepared by:

James E. Huff, P.E.

Lisa M. Paulson

September 2000

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ACRONYMS

CFR - *Codes of Federal Regulations*

Hg - Mercury

HSP - Health and Safety Plan

IDLH - Immediate Danger to Life and Health

IEPA - Illinois Environmental Protection Agency

J.U.L.I.E.- Joint Utility Locating Information for Excavators

mg/cu m - Milligrams per cubic meter

OSHA - Occupational Health and Safety Administration

PPE - Personnel Protective Equipment

SOP - Standard Operating Procedure

STEL - Short Term Exposure Limit

TACO - Tiered Approach to Cleanup Objectives

TLV - Threshold Limit Value

TWA - Time Weighted Average

U.S. EPA - United States Environmental Protection Agency

SAMPLE SIGNATURE PAGE

HEALTH AND SAFETY PLAN
APPROVAL/SIGN-OFF FORMAT

I have read, understood, and agreed with the information set forth in this Health and Safety Plan (and attachments) and discussed in the Personnel Health and Safety briefing.

Name	Signature	Date

1. INTRODUCTION

1.1 Background Information

Nicor Gas received an Administrative Order from the U.S. EPA regarding the discovery of mercury type natural gas regulators at Chicago Heights Iron & Supply Company, Chicago Heights, Illinois. This Health & Safety Plan was prepared as a requirement of this Administrative Order to respond to the mercury concerns at this facility.

1.2 Site Description

Chicago Heights Iron & Supply Company is located at 1715 Wentworth Avenue, Chicago Heights, Illinois. Figure 1-1 depicts the site location. The site is located in an industrial area.

South of the facility is a vacant lot and farther to the south is a railroad track. A residential area is located further south of these tracks along 20th Street. West of the facility, across Wentworth Avenue is a vacant lot. The facility is bordered to the north by a railroad line, north of the railroad, along the east and west side of Wentworth are commercial/industrial buildings. Adjacent to the east of the facility is the Ozinga Concrete facility.

1.3 Scope of Work

The scope of work consists of removing the scrap iron piles which contain the subject gas regulators into rolloff boxes for off site disposal, followed by soil screening with a Jerome Meter, soil removal as necessary, followed by confirmation sampling.

1.4 Exposure Limits

The routes of exposure associated with mercury are ingestion and inhalation. The vapor pressure of mercury is relatively low, 0.0012 mm Hg at 25°C. Exposure can occur from both inhalation of the vapors as well as ingestion of dust particles. The recommended NIOSH exposure limits for mercury is:

TWA – (8 hr); 0.025 mg/cu m

In addition, OSHA has a ceiling exposure limit of 0.100 mg/cu m for mercury. The portable Jerome Meter is calibrated to directly read the mercury vapor concentration in the sample or atmosphere. If the recommended NIOSH limit 0.025 mg/cu m in the breathing zone is exceeded, then the level of protection used will be upgraded from Level D to Level C. Some activities will automatically be done in Level C. If the mercury concentration is above 1.25 mg/cu m, PPE will be upgraded to Level B.

1.5 General Site Safety Guidelines

The health and safety protocols established in this plan are based on the site conditions and chemical hazards known and/or anticipated to be present from the available site data.

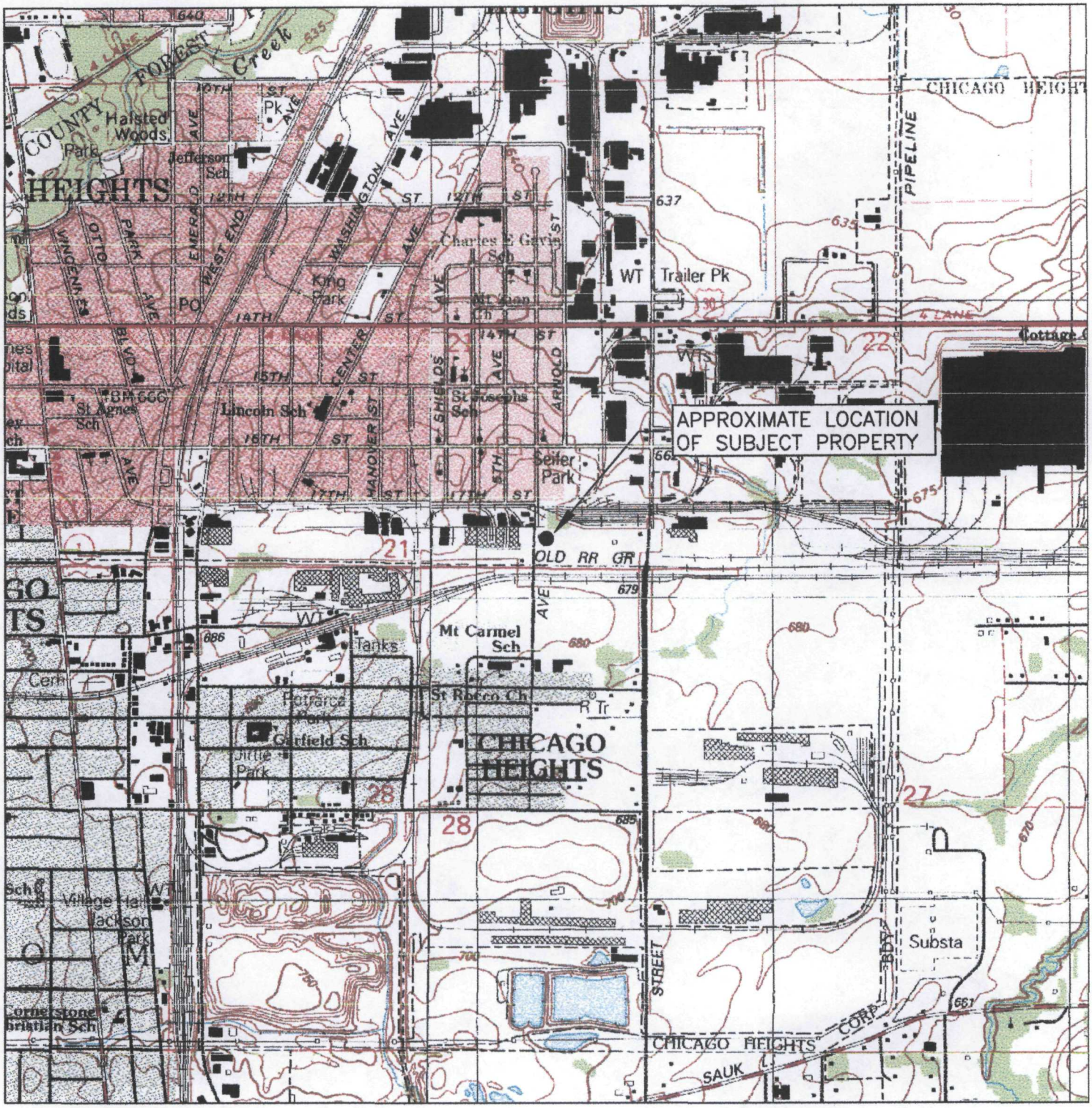

FIGURE 1–1
SITE LOCATION MAP
CHICAGO HEIGHTS IRON & SUPPLY CO.
CHICAGO HEIGHTS, ILLINOIS

NORTH

2000' 0 2000'

SOURCE: UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY
DYER, STEGER, CALUMET CITY, & HARVEY, ILLINOIS QUADRANGLES

The following Health and Safety Plan (HSP) is intended solely for use during the proposed activities. Specifications herein are subject to review and revision based on actual conditions encountered in the field during site characterization activities.

Before site operations begin, all employees involved in these operations will have read and understood this Health and Safety Plan and all revisions made. The activities include loading scrap iron into rolloff boxes, screening the soil, soil removal as necessary, and collecting confirmation soil samples.

2. SITE HEALTH AND SAFETY MANAGER

The Site Health and Safety Manager will be responsible for the health and safety of workers on the site including the contractors. She will require that all personnel entering the site read this Health and Safety Plan and acknowledge in writing that they understand the contents of the Health and Safety Plan. This Manager will also ensure that the Health and Safety Plan is adhered to, decide when to change levels of protection, and, if necessary, to shut down operations. The personnel on-site will include the Health and Safety Manager, the crane operator, a backhoe operator (part time) and the contractor supervisor and two laborers, and the Project Manager. Should the Health and Safety Manager become incapacitated or absent in anyway, the Project Manager shall be in charge of Health and Safety.

3. STANDARD OPERATING PROCEDURES

- Eating, drinking, chewing gum, tobacco, smoking, or any practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in any area designated contaminated.

- Hands and face must be thoroughly washed prior to leaving the site.

- Whenever decontamination procedures for outer garments are in effect, the entire body should be thoroughly washed as soon as possible after the protective garment is removed.

- No facial hair which interferes with a satisfactory fit of the mask-to-face-seal is allowed on personnel required to wear respirators.

- Contact with contaminated or suspected contaminated surfaces should be avoided. Whenever possible, do not walk through puddles, leachate, discolored surfaces, kneel on ground, lean, sit, or place equipment on drums, containers, or the ground.

- Medicine and alcohol can potentiate the effects from exposure to toxic chemical. Prescribed drugs should not be taken by personnel at hazardous waste operations where the potential for absorption, inhalation, or ingestion of toxic substances exist unless specifically approved by a qualified physician. Alcoholic beverage intake is prohibited.

- All personnel must be familiar with standard operating safety procedures and any additional instructions and information contained in the Health and Safety Plan.

- All personnel must adhere to the information contained in the Health and Safety Plan.

- Contact lenses cannot be worn when respirator protection is required or when the hazard of a splash exists.

- Personnel will be aware of symptoms for toxic chemicals on site and for heat and cold stress.

- All personnel will have available air purifying respirators for elemental mercury.

- Respirators shall be clean and disinfected after each day's use or more often if necessary.

- Prior to donning, respirators will be inspected for worn or deteriorated parts.

- The employee will be familiar with all sections of the established respirator program.

- Contractors and Huff & Huff personnel will review standard communications for operating and emergency conditions.

- Disposable foot wear shall be worn by all workers entering the exclusion zone until remediation is deemed complete.

4. OPERATIONS

- All personnel going on-site into the exclusion zone must be adequately trained (OSHA 40 hour) and thoroughly briefed on anticipated hazards, equipment to be worn, safety practices to be followed, emergency procedures, and communications.

- Any required respiratory protective devices and clothing must be worn by all personnel going into areas designated for wearing protective equipment.

- Personnel on-site must use the buddy system when wearing respiratory protect equipment.

- During continual operations, on-site workers act as safety backup to each other. Off-site personnel provide emergency assistance.

- Entrance and exit locations must be designated and emergency escape routes delineated.

- Personnel and equipment in the contaminated area should be minimized, consistent with effective site operations.

- Work areas for various operational activities must be established.

- Procedures for leaving a contaminated area must be planned and implemented prior to going on-site. Work areas and decontamination procedures must be established based on expected site conditions. A separate decontamination station for equipment and for personnel will be established. (If part of the building is vacant at the time of the investigation, an indoor personnel decontamination station may be established if owner approval can be secured.)

- Frequent and regular inspections of site operations will be conducted to insure compliance with the Health and Safety Plan. If any changes in operation occur, the Health and Safety Plan must be modified to reflect changes.

5. EMPLOYEE TRAINING

All operational employees participate in routine health and safety education and training programs. These programs are designed to provide these employees with a thorough knowledge of hazardous materials, health, and safety hazard potentials and compliance with federal OSHA 29 CFR 1910.120(e): 40 hours initial instruction, 8 hours refresher training, supervisor's additional 8 hours specialized training, and EPA requirements. Current training certificates for the Health and Safety Manager and Principal are attached. Contractors are also provided with 40 hours of initial instruction and 8 hours refresher training. As a minimum, this training includes the following:

- General Safety Rules
- Basics of Chemistry
- Basics of Toxicology/Physiology
- Hazardous Materials (types/characteristics)
- *Hazard Communication Information*
- Respiratory Protection
- Respirator Training
- Chemical Protective Clothing
- Decontamination Procedures/Personal Hygiene
- Fire Prevention/Protection
- First Aid/CPR
- Confined Space Work/Safety
- Atmospheric Testing/Sampling Procedures
- Emergency Response Procedures
- Electrical Hazard
- Federal and State Regulations

6. PHYSICAL AND CHEMICAL HAZARDS ON-SITE

6.1 Physical Hazards

From the information available, there are no identified immediate hazards regarding fire, explosion, airborne contaminants, radiation, and oxygen deficient atmospheres.

Site activities include loading scrap iron into rolloff boxes, hand picking debris, soil screening, soil removal as necessary, and sample collection. These operations present certain physical hazards, such as being struck by heavy objects or dangers due to moving machinery. Hard hats will be required for personnel on site.

6.2 Chemical Hazards

Chemical hazards involve potential exposure to the compounds found at the site. The compound identified as being present at the site is elemental mercury.

The Hazardous Chemical Data Sheets for mercury listing the chemical properties, signs and symptoms of exposure to these contaminants, IDLH's (10 mg/cu m), TLVs 0.025 mg/cu m), and first aid procedures to implement in the event of exposure, are included for reference in the Appendix B.

6.3 Utility Hazards

The underground utility companies will be contacted through J.U.L.I.E. The utility companies will mark the utilities before subsurface work is conducted. The utility companies mark according to the following color code:

Electric	Red
Telephone	Orange
Water	Blue
Gas	Yellow

The line marked by the utility companies is normally within 24" of the marked line. Additional utilities may still be present that are maintained by companies not contacted by J.U.L.I.E.
The telephone numbers for the repair of natural gas and electric line crews are indicated below:

Nicor	1 (630) 983-8676
Commonwealth Edison	1-800-334-7661

7. MEDICAL SURVEILLANCE

7.1 Medical Examinations

Huff & Huff personnel participates in a medical examination program that includes a physical examination once per year. The physical exam includes a respiratory examination to determine physical fitness to wear respiratory equipment. The physical examination tests includes blood, urinalysis, cardio-pulmonary, hearing, and vision. The contractors medical program must be similar to the Huff & Huff medical program. All programs follow the requirements of 29 CFR 1910.120(f). Employees have been made aware that the medical records are accessible. Huff & Huff employees are mailed a copy of the record following the examination. The Contractor, Heritage, has a similar program, as described in their Health & Safety Plan contained in Appendix A. In addition, both Huff & Huff and Heritage employees have been tested for mercury blood levels before initiating the scrap yard removal projects, and will be tested upon conclusion of all such work for Nicor Gas.

7.2 Personnel Protective Equipment

Personnel protection equipment is a very important consideration in any site investigation which involves or may involve hazardous working conditions. Given the preliminary information concerning the site, modified Level D protection (Level C minus respirator) will be implemented.

Disposable booties will be worn by all workers entering the exclusion zone. A Jerome Meter will be used to measure mercury levels in the breathing zone. If mercury levels in the exclusion zone exceed 0.025 mg/cu m, Level C PPE will be required. In addition, when hand picking debris, any vacuuming of mercury, or entering a rolloff box, Level C PPE will be worn.

The following personal protective equipment will be required:

- Boots - Steel toe
- Hard hat
- Gloves (outer & latex inner)
- Company issued and cleaned work clothes
- Disposable outer booties
- Tyvek suits

The following will be available:

- Full or partial face respirators (mercury cartridges)

The Health and Safety Officer will decide on appropriate personal protection equipment to be worn and he/she will have the discretionary power to upgrade personal protection as appropriate. Failure to wear personal protection equipment required by the health and safety officer can be cause for suspension of a worker from the site.

8. DECONTAMINATION PROCEDURES

Decontamination of personnel protective equipment (PPE) Level D is as follows:

1. Remove outer boots discard in PPE drum
2. Hard hats should be free of soil and debris
3. Remove Tyvek outer gloves and dispose of in PPE drum
4. Wash hands and face before leaving site
5. Work clothes to be sent to commercial/industrial laundry service.

A personnel decontamination station will be located outside the exclusion zone.

The decontamination procedures for sampling equipment consists primarily of a tap water Alconox wash and scrub followed by tap water rinse, mercury cleaning solution wash, tap water rinse followed by a deionized water spray rinse and air drying. Heavy equipment (backhoe bucket) will be washed the mercury cleaning solution. Protective suits, gloves, respirator cartridges, tape (if utilized) will be placed in containers for proper disposal at the end of the operations as low level mercury hazardous waste. Site personnel will be required to wash their face and hands prior to each site exit. Soiled clothing will be removed and sent to a commercial/industrial laundry service.

Rinsate will be generated from decontamination of the heavy equipment as well as sampling equipment. This rinsate will be captured and drummed for proper disposal.

8.1 Work Zones

Work zones will be established in the event that levels monitored during the work procedures exceed the action levels. Figure 8-1 depicts the proposed decon zones, with a support zone and contamination reduction zone. An exclusion zone will be established in the immediate area where of the scrap iron pile.

8.2 Decontamination During Medical Emergencies

Decontamination procedures for injured personnel is an important consideration in ensuring the health of site workers. Improper decontamination may aggravate or cause more serious health effects. In the event that a life-threatening situation occurs, decontamination procedures will be omitted and prompt life-saving first aid and medical attention will be administered. Measures to be taken in a life-threatening physical injury include:

1. Contact the Health and Safety Officer immediately.

2. Remove outer garments (depending on the weather) if they do not cause delays, interfere with treatment, or aggravate the problem. Full-encapsulating and chemical resistant suits can be cut away.

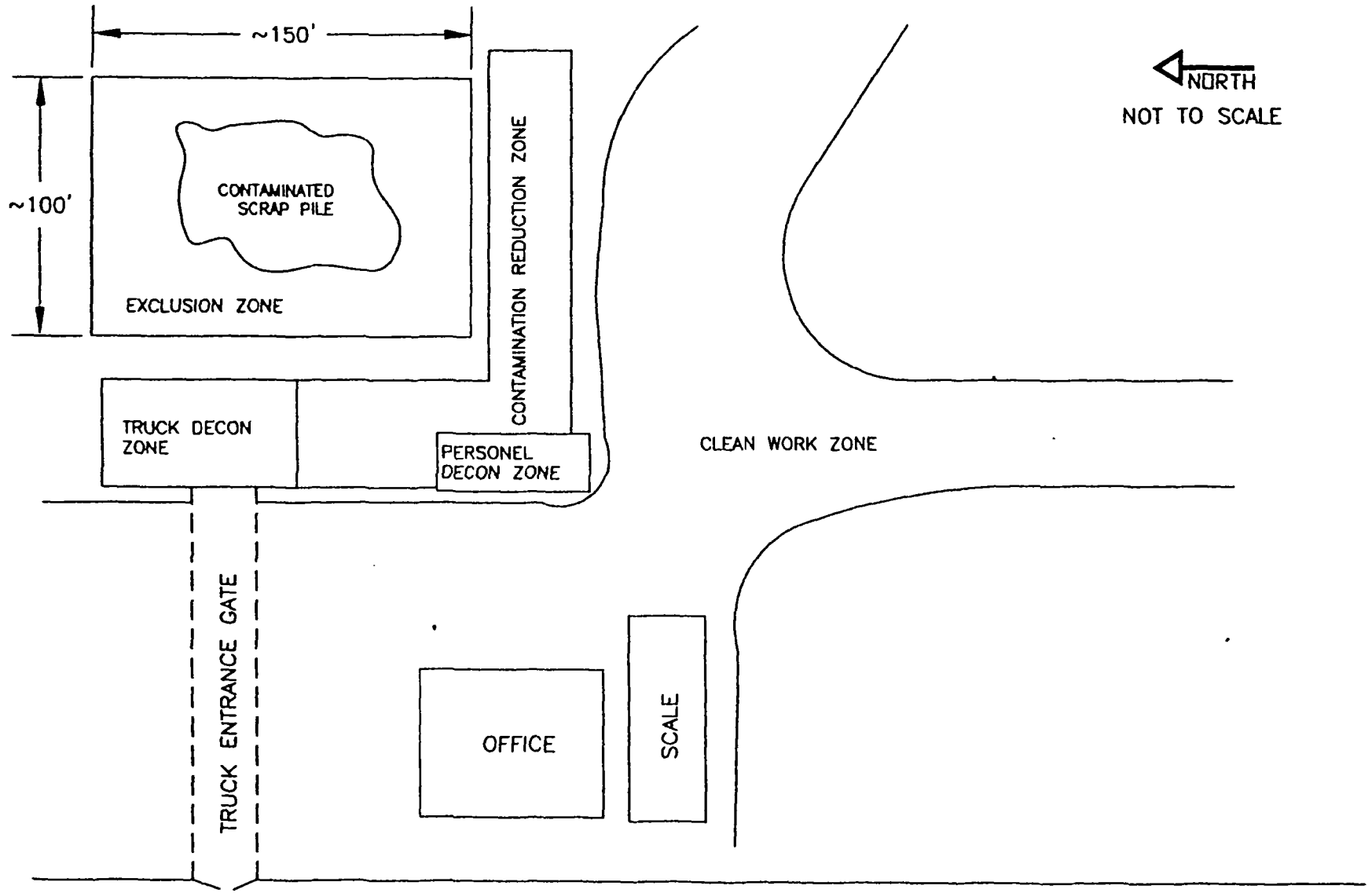

FIGURE 8-1
SITE LAYOUT MAP
CHICAGO HEIGHTS IRON & SUPPLY CO.
CHICAGO HEIGHTS, ILLINOIS

CADFILE:SITE LAYOUT

3. If the outer contaminated garments cannot be safely removed, wrap the individual in plastic, rubber or blankets to help prevent contaminating the inside of ambulances and medical personnel.

4. No attempt should be made to wash or rinse the victim at the site. The one exception to this would be, if it is known that the individual has been contaminated with an extremely toxic or corrosive material which could also cause sever injury or loss of life.

In the event of minor physical problems or injuries, e.g., sprained ankle, cuts, etc., normal decontamination procedures should be followed.

Heat related emergencies and chemical injury are two of the more common medical problems on site investigations. It should be remembered that heat stroke requires prompt treatment to prevent irreversible damage or death.

Heat exposure becomes dangerous when the body can no longer regulate the bodies core temperature. The heat related illnesses may occur in sequence, starting with Heat Rash and progress into a more severe case or go straight to Heat Stroke. The following is a summary of the symptoms and care related to each of the heat illnesses.

Heat Rash - effects the skin and feels like prickly heat.

Signs and Symptoms:
1. Skin Rash
2. Tingling or prickling sensation on the skin.

Emergency Care:
1. Shower
2. Dry Skin Thoroughly
3. Change undergarments as needed
4. Stay in cool place
5. Avoid repeated heat exposure.

Heat Cramps - muscle pains, usually in lower extremities, abdomen, or both.

Signs and Symptoms:
1. Cramps in lower extremities or abdomen. Cramps come on suddenly and can be mild with only slight cramping. Cramps are more commonly incapacitating and intense pain.
2. Increased respiratory rate
3. Increased pulse rate
4. Pale and moist skin
5. Normal body temperature
6. Loss of consciousness
7. Generalized weakness

Emergency Care:

1. Move the worker to a cool environment. Have him lie down if he feels faint.

2. If the worker is not nauseated he may be given 1 or 2 glasses of an electrolyte solution. Have the worker drink slowly. The use of salt tablets is not recommended, as they may precipitate nausea.

3. If the worker is nauseated avoid giving anything by mouth until the nausea subsides.

4. Avoid massaging the cramping muscles. This rarely helps and may actually aggravate the pain.

5. As the salt and water level is replenished, the worker's pain will subside. He may wish to return to work, however this is NOT recommended for a period of 12 hours. Further exertion may lead to heat exhaustion or heat stroke.

Heat Exhaustion - more severe response to loss of salt and water.

Signs and Symptoms:

1. Heat Exhaustion may come on suddenly and collapse, or may be present with a headache, fatigue, dizziness, nausea with occasional abdominal cramping.

2. Sweating will be profuse.

3. Pulse rate will be rapid and weak

4. Respiration rate will be rapid and shallow.

5. The skin will be pale and clammy.

6. The body temperature will be normal or decreased.

7. The worker could be irritable and restless.

8. Monitor the worker's level of consciousness and airway.

Emergency Care:

1. Move the worker to a cool environment, take off as much of his clothing as possible, place him in a supine position with his legs elevated.

2. Sponge the worker with cool water. If you fan the worker, avoid chilling. When the body chills, the muscle generate energy. When the body shivers, this energy is released in the form of heat and actually can increase the body temperature.

3. *If this is a true medical emergency, prompt intervention by Emergency Medical Services is* recommended.

Heat Stroke - Heat stroke is caused by a severe disturbance in the body's heat-regulating mechanism and is a profound emergency, with a mortality rate ranging from 25 to 50 percent. It is most common in men over 40, especially in alcoholics. It can also occur in people of any age having too much exposure to the sun or prolonged confinement in a hot atmosphere. Heat stroke comes on suddenly. As the sweating mechanism fails, the body temperature begins to rise precipitously, reaching 106°F (41° C) or higher within 10 to 15 minutes. If the situation is not corrected rapidly, the body cells--especially the very vulnerable cells of the brain--are literally cooked, and irreversible central nervous system damage occurs.

The treatment for Heat Stroke is aimed at maintaining vital functions and causing as rapid a temperature fall as possible.

Signs and Symptoms:

1. The worker's pulse will be strong and bounding.

2. The skin will be hot, dry and flushed.

3. The worker may experience headache, dizziness, and dryness of mouth.

4. Seizures and coma occur.

5. Loss of consciousness and airway maintenance problems can occur.

Emergency Care:

1. Establish an open airway.

2. Move the worker to a cool environment. Take off as much clothing as possible, place him in a semi-reclining position with the head elevated.

3. Use any means to cool the worker. Improvise with whatever is available. A bathtub filled with cold water and ice cubes is an idea. Remember, speed is essential; delay may result in permanent brain damage. Vigorous efforts to cool the worker must continue until the body is below 102°F (38.9°C).

4. This is a true medical emergency, prompt intervention by Emergency Medical Services is recommended.

These are only guidelines for the care of Heat Related Emergencies. Actual training in emergency medical care or basic first aid is recommended.

Chemical Exposure - Chemical exposure symptoms will vary depending upon the chemical of concern. The chemical exposure guidelines and symptoms are presented in the table in the attachments for mercury.

In the event of chemical exposure, the following general measures should be taken:

1. Contact the Health and Safety Officer immediately.

2. For inhaled contaminants, seek immediate medical attention.

3. For contamination of the skin and eyes, use water to flush the affected area.

4. Unless severe medical problems occur, simultaneously with splashes, the protective clothing should be washed off as rapidly as possible and carefully removed.

The aforementioned information on decontamination is a general guideline to follow. Each medical emergency is unique and it is up to the discretion of the Health and Safety Officer and site personnel to act appropriately given the situation. In the event of any exposure, the Health and Safety Officer should be contacted.

In the event it becomes necessary to transport a victim to the hospital, a map with directions is given in Figure 8-2. The directions are as follows:

Turn right (north) on Wentworth Avenue.
Turn left (west) on Lincoln Highway.
St. James at southeast corner of Lincoln Highway &Chicago Vincennes Road

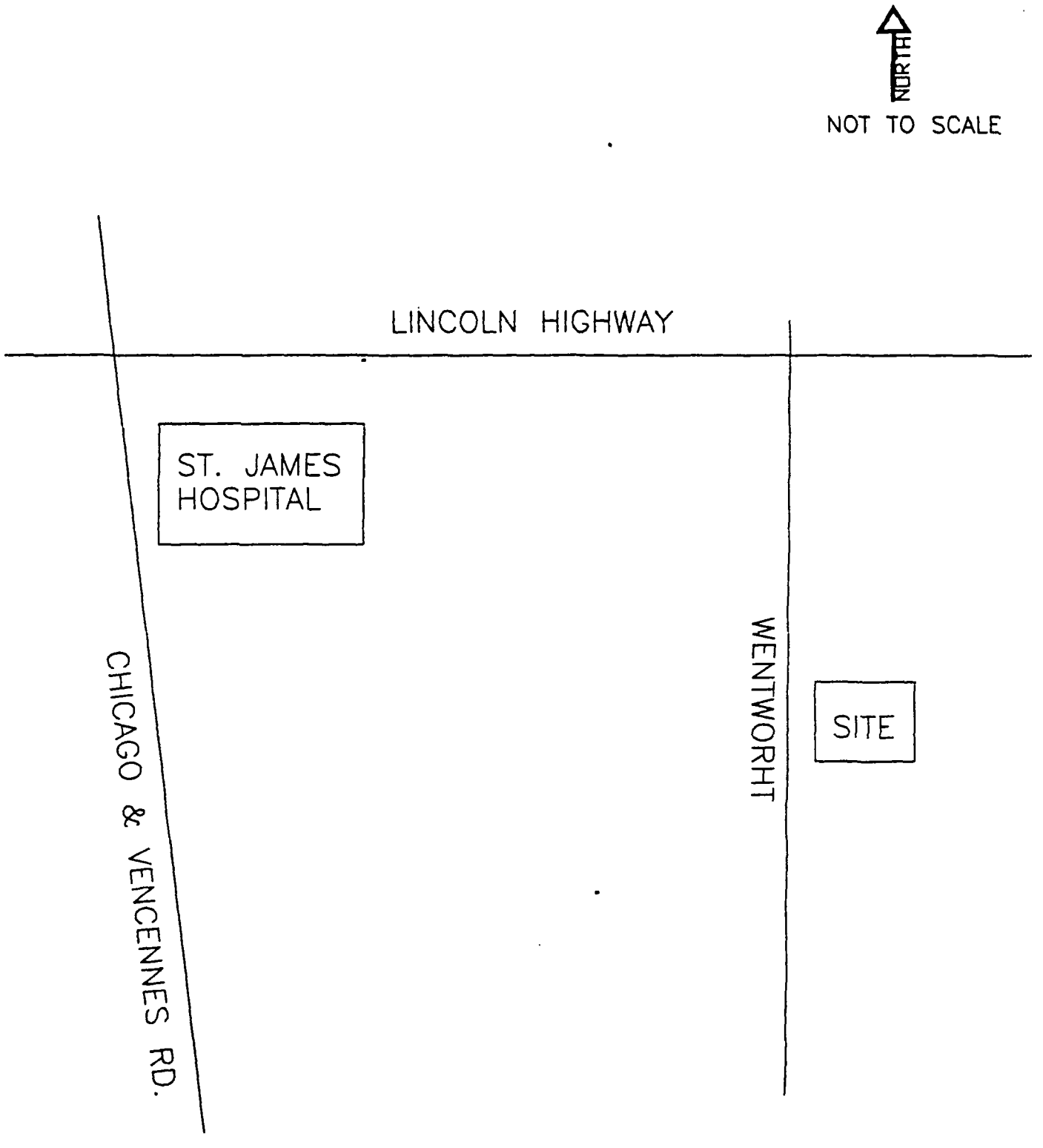

FIGURE 8-2
MAP TO HOSPITAL
CHICAGO HEIGHTS IRON & SUPPLY CO.
CHICAGO HEIGHTS, ILLINOIS

CADFILE:MERCURY-1

9. EMERGENCY RESPONSE

Personal medical records for Huff & Huff employees can be obtained from:

Occupational Health Services
Executive Clinic
222 East Ogden Avenue
Hinsdale, IL 60521
Phone: (708) 887-6133
Emergency Phone: (708)887-6133

The following phone list presents the emergency phone numbers:

Ambulance	911
Chicago Heights Fire Department	911
Non-Emergency	708-756-6400
Chicago Heights Police Department	911
Non-Emergency	708-756-6400
St. James Memorial Hospital	708-756-1000
Poison Control Center	1-800-942-5969
Illinois Emergency Management Service	1-217-782-7860
IEPA-Emergency Response Unit	1-800-782-7860
Huff & Huff, Inc.	1-708-579-5940

First aid kits, which meet the requirements of 29 CFR 1926.50, will be accessible to all personnel associated with this project. The first aid kit shall consist of a waterproof container with individual sealed packages for each item. The contents will be checked before being sent out to the job site. This will be located in the Site Health and Safety Officer's vehicle. Remaining personnel will be identified upon selection of a Contractor.

10. AIR MONITORING

10.1 Exclusion Zone Monitoring

A portable Jerome meter with air filter will be used to record mercury readings on the exclusion zone every 20 minutes. If the mercury level is below 0.025 mg/m^3, no respirators will be required during the loading of scrap metal.

If mercury readings are between 0.026 mg/m^3 and 0.124 mg/m^3 Level C PPE will be worn. If mercury levels are above 1.25 mg/m^3 PPE will be upgraded to Level B.

In addition employees on site will wear passive mercury badges to monitor each workers exposure level. Information on these badges can be found in Appendix E.

10.2 Perimeter Air Monitoring

A Jerome Meter will be used to monitor the perimeter of the site during any scrap metal and soil excavation activities. Initially, background readings will be recorded. Every hour a reading will be recorded at each of the four exclusion zone boundaries at the breathing zone elevation. Four consecutive readings will be averaged at each location. If any average is above 0.010 mg/m^3, field work will slow down and readings will be recorded every 10 minutes at the location with elevated reading. If the readings do not drop back down to an average below 0.010 mg/cu m, work will stop until readings are at or below 0.010 mg/m^3.

An example of the log sheet used to record Jerome readings is included in Appendix C.

In addition, the passive mercury badges will be mounted on all four sides of the exclusion zone on days when scrap metal removal and/or soil removal activities occur.

APPENDIX A

NICOR
MERCURY PROJECT
CHICAGO HEIGHTS, IL

Health & Safety Plan

Prepared By:
Heritage Environmental Services LLC
Hammond, Division

Health & Safety Manager
Perre Krizanek

August 31, 2000

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PROJECT SCOPE OF WORK
HEALTH & SAFETY PLAN

Customer:	NICOR
Job No.:	
Address:	Wentworth Ave. Chicago Heights, IL.
Contact:	
Phone No.:	

Proposed Dates of Work: 9/1/2000 Thru 9/15/2000

Site Processes and History: Metal Scrap processing facility.

Detailed Scope of Work: Segragrating contaminated scrap from the un-contaminated scrap and by visual observation, and stage in roll off boxes on site.

Hazard Evaluation:

Chemicals that will be present: Mercury

Physical hazards present:

Confined Space	☐	Energized/Pressurized Lines or Equipment	☐
Excessive Noise	☐	Below Grade Work	☐
10K Waterblasting*	☐	20K Waterblasting*	☐
Hot Works	☐	High Velocity Vacuum Equipment	☐

* The waterblasting checklist MUST be completed prior to starting work.

PROJECT SCOPE OF WORK
HEALTH & SAFETY PLAN

RESPIRATORS

Supplied Air
- SCBA ☐
- Airline ☐

Air Purifying
- Full face ☒
- Half face ☐

Cartridges
- GMC-H ☐
- Type H ☐
- Type F ☐
- Mersorb ☒

CLOTHING

- Work Uniform ☒
- CPF I ☐
- CPF II ☐
- CPF III ☐
- Poly-Tyvek ☐
- Saranex ☐
- P.V.C. Rainsuit ☐
- Tyvek (white) ☒

GLOVES

Interior
- Latex ☒
- Nitrile ☐
- Silver Shield ☐

Exterior
- PVC ☒
- Nitrile (grn) ☐
- Butyl ☐
- Viton ☐
- Neoprene ☐

BOOTS

- Work Boots ☒
- Latex Covers ☐
- Nitrile/PVC ☐
- Metatarsal ☐
- PVC Cover ☐

OTHER

- Safety Glasses ☒
- Hard Hat ☒
- Goggles ☐
- Face Shield ☐
- Ear Plugs ☐

SPECIAL INSTRUCTIONS

- Ground All Equipment ☐
- Use Hooded Suits ☐
- Duct Tape all Extremities ☒
- Double Interior Glove ☐

OTHER

- Decon with Soap & Water ☒
- Decon Equipment when Complete ☒

COMMENTS: Mercury can be in dust at site, keep dust off clothing if possible. Decon befor proceeding out of exclusionn zone. Be aware of heat stress and over exertion. Drink plenty of fluids.

Generated By: Perre Krizanek Date: 09/01/00

Reviewed and Approved By: Perre Krizanek

Perre Krizanek – Division Safety Manager

Emergency Information:

FIRE: 911
AMBULANCE: 911

HOSPITAL: Saint James Hospital Health Center
1423 Chicago Road

PROJECT SCOPE OF WORK
HEALTH & SAFETY PLAN

Chicago Hieghts, IL. ^0411
708-756-1000

Directions: Take Wentworth north to Rt. 30 turn left proceed approximattly 1 mile hospital on left.

Required Safety Equipment

First Aid Kit	☒	Fire Extinguisher	☒
Eye Wash	☒		

Proposed Evacuation Route: Proceed out the west gate and assemble across the street for head count.

Emergency Contacts:

Poison Control Center	(800) 942-6100
US EPA Region V	(312) 353-2318
IDEM	(317) 232-8603
National Response Center	(800) 424-8802
CHEMTREC	(800) 424-9300

Division Office

HERITAGE ENVIRONMENTAL SERVICES, INC.
111 142nd Street
Hammond, Indiana 46327

phone (219) 852-1600 fax. (219) 852-1700

Division Personnel	Home Phone	Pager	Mobile Phone
Tom Mulcahy – Div.. Mgr.	815/436-5481	815/851-1924	219/746-9223
Perre Krizanek – Safety Mgr.	219-662-8039	219/770-2240	219/763-9227

PROJECT SCOPE OF WORK
HEALTH & SAFETY PLAN

Jim Ballard - Project Mgr.	773/646-0511	219/791-6524	219/746-9221
Tony Koveski - Superintendent	219/938-8036	219/794-8977	219/746-9222
Rod Loosemore – Project Mgr.	219/662-1167	219/770-2813	219/746-9220
Kerry Powell – Dispatcher			
Ray Collins – Account Mgr.			

CERTIFICATION

The Supervisor and Project Manager named below have reviewed the safety elements of this plan with all field personnel prior to commencing work activities. HERITAGE certifies that all HERITAGE employees performing hazardous waste activities are in compliance with 29 CFR 1910.120 training standards.

SUPERVISOR

NAME: _____

TITLE: _____

SIGNATURE: _____

DATE: _____

PROJECT MANAGER

NAME: PERRE KRIZANEK

TITLE: PROJECT MANAGER / SAFETY MANAGER

SIGNATURE: Perre Krizanek

DATE: 9-1-00

Attention Mr. James Huff
Huff & Huff Incorporated
512 W. Burlington Ave.
LaGrange, IL 60525

Dear Mr. Huff

Heritage Environmental Services, LLC (Heritage) is pleased to submit our work plan in reference to **Scrap Metal and Mercury Contaminated Debris located at the scrap yard in Chicago Heights, Illinois.** HERITAGE is a leader in the environmental and industrial maintenance fields, maintaining a fleet of equipment including high velocity vacuum trucks, water blasters and jetter trucks throughout the Midwest.

SCOPE OF WORK

- Isolated and identify an exclusion zone area approximately 100' by 100'.
- Set up decon facilities for personnel decontamination for personnel entering and exiting the exclusion zone.
- Roll off boxes will be placed on site and lined with 6-mil visqueen and utilized for the containerization of all contaminated scrap.
- Jerome 431 monitors will be used on site at all times during the proposed remediation process.
- Heritage will utilize a magnet crane to load scrap material from the stockpiles of scrap directly into lined roll off containers.
- Once the containers are loaded they will be covered, manifested and transported to Heritage Environments part "B" facility for storage until final disposal arrangements are made.
- Upon removing all material that can be removed with the magnet crane, the remainder non-ferris material will be removed manually by Heritage employees donned in level "C" PPE and placed into a non- ferris roll-off container.
- All visible mercury will be vacuumed and containerized utilizing a mercury vacuum equipped with mercury trap, Post carbon filter and HEPA filter to trap any mercury contaminated dust.

Personnel Protection Guidelines
NICOR PROJECT
SCRAPYARD

Chicago Heights, IL

Heritage Environmental Services LLC has established the following guidelines for personnel protection while working on the NICOR mercury scrap project in Chicago Heights, IL.

- Clean Zone Street Clothing Hard Hat And Safety Glasses.

- Exclusion Zone Level "D" PPE with attached Mercury Badge.
  Level "D" for this site will consist of the following:

  1. Work Uniform
  2. Hard Hat
  3. Steel toe Rubber Boots
  4. White Tyvex
  5. Safety Glasses
  6. Mercury Badge
  7. Inner Latex Gloves
  8. Outer Rubber Gloves

- A Jerome 431 Gold Film Monitor will first screen all areas on the site to insure levels do not exceed the Permissible Exposure Limits, (TLV) for elemental mercury of 0.025 mg/m^3. Should monitoring on site indicate levels are above the TLV for mercury, PPE on site will be up graded to level "C" Personal protection.

- Should air monitoring on site indicate levels have reached or exceeded the action level of 1.25 mg/m^3, personal protective equipment will be up graded to level "B".

These levels of protection will be used as a guideline while working on the NICOR scrap project; these guidelines are subject to change due to unforeseen circumstances, which could arise as site conditions change.

Perre Krizanek
Safety Manager/Project Manager

Perre Krizanek

Heritage Environmental Services LLC
Hammond, Division

HERITAGE ENVIRONMENTAL SERVICES, INC.
HEALTH AND SAFETY PROCEDURES

SUBJECT: HEAT STRESS RECOGNITION AND CONTROL	NUMBER 8
	PAGE 1 of 4
	DATE FIRST PUBLISHED 3/17/97

1.0 PURPOSE

To ensure employee health and safety is not impaired by excessive exposure to hot environments.

2.0 REQUIREMENTS

2.1 Scope

These procedures should be followed any time that work is being performed in temperatures above 70°F. The use of protective clothing and lack of air movement increase the potential for heat stress to occur. It takes approximately one to two weeks for a person to adjust to working in a hot environment. This adjustment process is called acclimization. Once acclimization has occurred, the body finds it much easier to work in a hot environment although heat stress is always a possibility. Acclimization can be lost if an employee is not working in a hot environment for a week or more.

2.2 Types of Heat Stress, Symptoms and Treatment

There are three types of heat stress which range from mild to serious:

a. Heat Problems
b. Heat Exhaustion
c. Heat Stress

The attached table lists the symptoms and treatment for each of these types of heat stress. The information provided in this table must be provided to employees when heat stress is possible to aid them in recognition of symptoms in themselves or others.

SUBJECT:	HEAT STRESS RECOGNITION AND CONTROL	NUMBER 8
		PAGE 2 of 4
		DATE FIRST PUBLISHED 3/17/97

2.3 Conditions that Increase Potential for Heat Stress

Several factors can increase the potential for heat stress:

a. Working in protective clothing (e.g., Tyvek, Saranex);
b. Working in direct sunlight;
c. Working in unventilated areas or areas with little air movement;
d. Working around heat producing equipment;
e. Obesity and/or lack of physical fitness;
f. Medical conditions such as: generalized chronic dermatitis, circulatory impairment, fluid and electrolyte imbalance, chronic alcoholism or liver disease.

Employees working under these conditions should pay particular attention to the appearance of heat stress symptoms and seek medical attention if necessary.

2.4 Measuring Heat Stress

When temperatures exceed 70°F, a heat stress monitoring program should be implemented. The frequency of monitoring should depend on the ambient temperature. The following schedule is suggested:

3.4.1 *Levels A, B, C and D PPE*

Core Body Temperature - At the beginning of each break period and at lunch, each employee will have his oral temperature taken. Temperature must be taken for three minutes before drinking anything. If the reading exceeds 99.6°F, the following work period will be shortened by 33%. If at the next beginning of the next break, the temperature exceeds 99.6°F, the next work period will be reduced by an additional 33%. No worker will be permitted to work in semi-permeable

or impermeable chemical protective clothing if their temperature exceeds 100.6°F.

Pulse Rate - At the beginning of each break period and at lunch, each employee's pulse will be monitored. If the pulse rate is less than 110 beats per minutes (bpm) work may resume at the normal time. If the pulse rate is above 110 bpm, the break time will be extended for ten additional minutes and the next work period will be shortened by 33%. If at the end of the next rest period, the pulse rate is still above 110 bpm, the individual shall proceed to the decon zone, decon out and rest in the support zone in a shaded area for at least one hour.

3.4.2 *Level D PPE*

WBGT - A more accurate means for measuring heat stress is the use of the Wet Bulb-Glove Temperature (WBGT). This is done by using an instrument that measures the air temperature (dry temperature), wet bulb temperature (a measure of humidity) and the globe temperature (a measure of radiant heat). The readings from these three temperatures are taken and then combined by the instrument into a single number, the WBGT.

The WBGT is then compared with the amount of physical exertion the work requires. Light work is considered to be sitting or standing to control machines, performing light hand or arm work. Moderate work is considered to be things like walking about with moderate lifting and pushing. Heavy work is considered to be very labor intensive work such as shovelling or heavy lifting. The limits for the WBGT are as follows (assuming continuous work):

- Light Work 86.0
- Moderate Work 80.1

- Heavy Work 77.0

If work is not continuous, the limits will change. Under these circumstances, the Corporate Compliance Department should be consulted.

3.5 Water and Electrolyte Replacement

Water replacement is essential at all hot operations. Cool drinking water or other beverage such as Gatorade or Squencher should be available to all employees during break periods and at lunch. Employees will be encouraged to drink large quantities of water during hot periods.

Electrolyte drinks such as Gatorade or Squencher replace minerals that are lost during heavy sweating. Electrolyte drinks are particularly important in the first few weeks of work in a hot environment while the body is adjusting to working in the heat.

HERITAGE ENVIRONMENTAL SERVICES, INC.
HEALTH AND SAFETY PROCEDURES

SUBJECT: MERCURY SPILL CLEAN-UP AND DECONTAMINATION PROCEDURES	NUMBER 16
	PAGE 1 of 5
	DATE FIRST PUBLISHED 12/13/96

1.0 POLICY

The purpose of this document is to prevent mercury exposure to Heritage employees and mercury contamination of Heritage owned equipment.

2.0 HEALTH HAZARDS OF METALS

Metallic mercury is a silver, mobile, odorless liquid that vaporizes easily at room temperature. It can affect the body if it is inhaled, absorbed through skin contact or absorbed through contact with the eyes. Short term effects of mercury inhalation may include headaches, cough, chest pains, chest tightness, difficulty breathing, soreness of the mouth, loss of teeth, nausea, diarrhea and skin irritation. It may also cause chemical pneumonitis.

Repeated or prolonged exposure to metallic mercury liquid or vapor causes effects which develop gradually. The first effects are often fine shaking of the hands, eyelids, lips, tongue or jaw. Other effects are allergic skin rash, headache, sores in the mouth, sore and swollen gums, loose teeth, insomnia, excess salivation, personality change, irritability, indecision, loss of memory and intellectual deterioration.

3.0 PERMISSIBLE EXPOSURE LIMITS

The Threshold Limit Value (TLV) for elemental mercury is 0.025 mg/m^3.

4.0 EXPOSURE MONITORING

All mercury remediation jobs must have a direct reading mercury monitor (Jerome or equivalent) on site during the entire project. Employees who work on mercury remediation projects will be trained to use this instrument. Refresher training must also be conducted prior to each new job in a toolbox safety meeting. The instrument is to be used to continuously monitor the area and determine the need to upgrade personal protective equipment. Mercury vapor levels can change rapidly during the course of a spill cleanup or remediation project as materials are moved around;

therefore, a specific individual on each job site should be assigned responsibility for observing monitor readings at regular intervals.

In addition to direct reading monitoring, full shift personnel monitoring will be conducted on an as-needed basis. The Corporate Compliance Department in Indianapolis should be consulted regarding personnel monitoring decisions.

5.0 MEDICAL SURVEILLANCE PROGRAM

Employees who work on mercury remediation projects must receive pre-job biological monitoring for mercury exposure which includes mercury in blood plasma and urine. Blood plasma measurements are used as indicators of acute low level exposure to mercury. Urine creatinine levels are also used as an indicator of chronic exposure levels.

Biological Monitoring Schedule:

1. Baseline

   When: Pre-Job and Post-Job
   What: Blood Plasma and 24-Hour Urine

2. Periodic

   When: As indicated based on the duration of the job
   What: Blood Plasma and 24-Hour Urine

3. Post-Incident

   When: Any incident in which employees have potential for high level acute exposure (i.e., spill response).
   What: Whole Blood Mercury

SUBJECT:	MERCURY SPILL CLEANUP AND DECONTAMINATION PROCEDURES	NUMBER 16
		PAGE 3 of 5
		DATE FIRST PUBLISHED 12/13/96

All employees are expected to promptly report any symptoms of potential mercury overexposure. Symptomatic individuals will be referred to the clinic for appropriate testing and evaluation.

Biological monitoring requirements may be altered only with the approval of the Corporate Compliance Department.

5.1 Action Levels

If, at any time, an employee's biological monitoring results exceed the action levels listed below, the employee will be retested as soon as possible to confirm the original results. If the results still exceed the action level, the employee will be removed from jobs or project with the potential for mercury exposure, and an investigation shall be conducted to identify the source of the exposure. The Corporate Compliance Department must be notified of all biological exposures exceeding the action levels outlined below.

No employee shall be returned to work in a mercury exposure area unless their biological exposure levels are below the action levels. Following an overexposure incident, follow up testing will be conducted as recommended by the occupational medicine physician.

ACTION LEVEL

Mercury Blood Plasma/Whole Blood	3 MCG/DL
Urine Mercury	150 MCG/L

5.2 Recordkeeping

A copy of all biological monitoring results will be retained in the employee's medical file at the local occupational health provider. In addition, all employees will receive a copy of the results of their biological monitoring.

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6.0 PERSONAL HYGIENE

All employees are required to wash their hands prior to eating, drinking, smoking, applying cosmetics or using the restroom on all job sites.

7.0 PERSONAL PROTECTIVE EQUIPMENT

Mercury remediation work will be performed in no less than Level C PPE. If air monitoring indicates airborne levels in excess of 1.25 mg/m3, an upgrade to Level B PPE will be required. No downgrading (below Level C) will be permitted until all remediation is complete and air monitoring levels are less than 0.01 mg/m^3.

Hooded CPF I coveralls with bound seams and feet are mandatory for all mercury remediation work.

Mersorb H cartridges (for MSA respirators) will be used for all air purifying respirators and employees will be trained to recognize the end-of-service indicator built into the respirator.

Mercury Check Swabs can be used for swipe sampling with immediate results to ensure the decontamination procedures are adequate.

8.0 DECONTAMINATION

Decontamination procedures must be planned in advance and adhered to exactly. Mercury contamination can spread rapidly and is not readily detectable. The entire work area should be cordoned off with red danger tape before work begins. A full decontamination station must be set up at the exit from the hot zone. Soap and water must be provided for a field wash after all PPE has been doffed.

SUBJECT:	MERCURY SPILL CLEANUP AND DECONTAMINATION PROCEDURES	NUMBER 16
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9.0 EMERGENCY FIRST AID PROCEDURES

9.1 Eye Contact

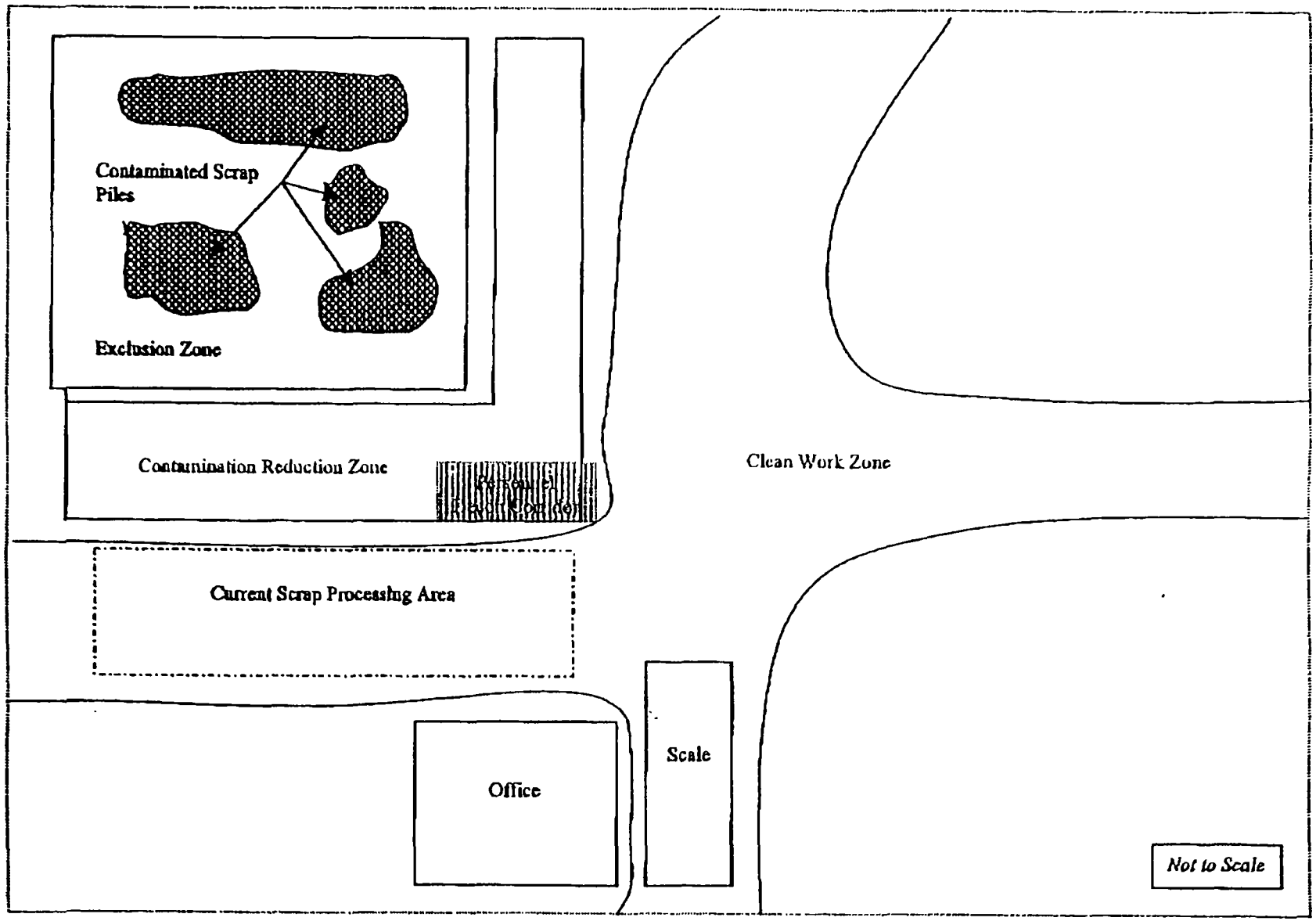
If an employee's eyes come in contact with mercury or mercury-containing liquids, flush with water for 15 minutes and send the employee to the clinic for evaluation.

9.2 Skin Contact

If the skin comes in contact with mercury or mercury-containing materials, flush thoroughly with water for fifteen minutes. If the contact is followed by irritation or skin rash, the employee should be sent to the clinic for evaluation.

9.3 Inhalation of Vapors

If an employee is overcome by mercury vapors, remove from the area and transport to the clinic for prompt evaluation.


Contaminated Scrap Piles
Exclusion Zone
Contamination Reduction Zone
Personnel Decontamination
Clean Work Zone
Current Scrap Processing Area
Office
Scale
Not to Scale
Wentworth Avenue

PROJECT SCOPE OF WORK
HEALTH & SAFETY PLAN

DAILY SAFETY MEETING

The site supervisor is responsible for conducting a site specific safety "tailgate" meeting prior to starting each shift.

Lock Out/Tag Out IS REQUIRED Supervisor's Initials _____

Lock Out/Tag Out IS NOT REQUIRED Supervisor's Initials _____

Please acknowledge employee attendance under the appropriate date:

Monday	initials	date	initials	date	initials	date
Tuesday	**initials**	**date**	**initials**	**date**	**initials**	**date**
Wednesday	**initials**	**date**	**initials**	**date**	**initials**	**date**
Thursday	**initials**	**date**	**initials**	**date**	**initials**	**date**
Friday	**initials**	**date**	**initials**	**date**	**initials**	**date**
Saturday	**initials**	**date**	**initials**	**date**	**initials**	**date**
Sunday	**initials**	**date**	**initials**	**date**	**initials**	**date**

APPENDIX B

Mercury MSDS

Fisher Scientific

Print Date: 9/04/2000
Revision Date: Original.
Version: 0

Material Safety Data Sheet
Mercury

Section 1 - Chemical Product and Company Identification

MSDS Name:

Mercury

Catalog Numbers:

M139 1LB, M139 5LB, M139-1LB, M139-5LB, M1391LB, M1395LB, M140 14LB, M140 1LB, M140 5LB, M140-14LB, M140-1LB, M140-5LB, M14014LB, M1401LB, M1405LB, M141 1LB, M141 6LB, M141-1LB, M141-6LB, M1411LB, M1416LB, NC9534278, S40672B, S41542, S41599, S41599B, S41599E, S41599G, S41599J, S41599K, S41599M, S41600P, S41600S, S41600W, S41630A, S41630B, S41630C, S41631, S41631A, S41631B, S41631C, S41645, S45245, S46981, S50443, S71966, S71967, S71968, S78777

Synonyms:

Colloidal Mercury; Hydrargyrum; Metallic Mercury; Quick silver; Liquid silver

Company Identification:

Fisher Scientific - Fairlawn
Fairlawn, NJ 07410

Company Phone Number:

(201) 796-7100

Emergency Phone Number:

(201) 796-7100

CHEMTREC Phone Number:

800-424-9300

CHEMTREC (International):

703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	Percent	EINECS/ELINCS
7439-97-6	MERCURY	app. 100	231-106-7

Hazard Symbols: T

Risk Phrases: 23 33

Material Safety Data Sheet
Mercury

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: silver

Danger! Corrosive. Harmful if inhaled. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns. Causes eye and skin irritation and possible burns. May cause central nervous system effects. May be absorbed through the skin. Inhalation of fumes may cause metal-fume fever. May cause liver and kidney damage. This substance has caused adverse reproductive and fetal effects in animals.

Target Organs: blood, kidneys, central nervous system, liver, brain.

Potential Health Effects

Eye:

Exposure to mercury or mercury compounds can cause discoloration on the front surface of the lens, which does not interfere with vision. Causes eye irritation and possible burns. Contact with mercury or mercury compounds can cause ulceration of the conjunctiva and cornea.

Skin:

May be absorbed through the skin in harmful amounts. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Causes skin irritation and possible burns. Causes skin irritation and possible burns.

Ingestion:

May cause severe and permanent damage to the digestive tract. May cause perforation of the digestive tract. May cause effects similar to those for inhalation exposure. May cause systemic effects.

Inhalation:

Causes chemical burns to the respiratory tract. Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count. May cause central nervous system effects including vertigo, anxiety, depression, muscle incoordination, and emotional instability. Aspiration may lead to pulmonary edema. May cause systemic effects. May cause systemic effects.

Chronic:

May cause liver and kidney damage. May cause reproductive and fetal effects. Effects may be delayed. Chronic exposure to mercury may cause permanent central nervous system damage, fatigue, weight loss, tremors, personality changes, Chronic ingestion may cause accumulation of mercury in body tissues. Chronic ingestion may cause accumulation of mercury in body tissues.

Section 4 - First Aid Measures

Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid immediately.

Skin:

Get medical aid. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

Material Safety Data Sheet
Mercury

Ingestion:

Never give anything by mouth to an unconscious person. Get medical aid immediately. Wash mouth out with water.

Inhalation:

Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Treat symptomatically and supportively.

Antidote:

The use of d-Penicillamine as a chelating agent should be determined by qualified medical personnel. The use of Dimercaprol or BAL (British Anti-Lewisite) as a chelating agent should be determined by qualified medical personnel.

Section 5 - Fire Fighting Measures

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media:

Substance is nonflammable; use agent most appropriate to extinguish surrounding fire. In case of fire use water spray, dry chemical, carbon dioxide, or appropriate foam.

NFPA Rating:

(estimated) Health: 3; Flammability: 0; Reactivity: 0

Section 6 - Accidental Release Measures

General Information:

Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spill with inert material, (e.g., dry sand or earth), then place into a chemical waste container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Keep container tightly closed. Do not get on skin or in eyes. Do not ingest or inhale. Use only in a chemical fume hood. Discard contaminated shoes. Discard contaminated shoes.

Storage:

Keep container closed when not in use. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from metals. Keep away from metals.

Material Safety Data Sheet
Mercury

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Exposure Limits

Chemical Name:	ACGIH	NIOSH	OSHA
MERCURY	Alkyl compounds, as Hg: 0.01 mg/m3 TWA; Aryl compounds, as Hg: 0.1 mg/m3 TWA; In;0.03 mg/m3 STEL;as Hg: skin - potential for cutaneous absorption	0.05 mg/m3 TWA 10 mg/m3 IDLH	Aryl and inorganic compounds, vapor: C 1 mg/10m3; organo (alkyl) mercury compoun ds: 0.01 mg/m3 TWA; C 0.04 mg/m3

OSHA Vacated PELs

MERCURY: vapor, as Hg: 0.05 mg/m3 TWA

Personal Protective Equipment

Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

A respiratory protection program that meets OSHA's 29 CFR §1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Color: silver
Odor: odorless
pH: No information found.
Vapor Pressure: .002 mm Hg @ 25C
Vapor Density: No information found.
Evaporation Rate: No information found.
Viscosity: 15.5mP @25C
Boiling Point: 674°F (356.67°C)
Freezing/Melting Point: -38°F
Autoignition Temperature: Not applicable.
Explosion Limits: Lower: Not available. Upper: Not available.
Flash Point: Not applicable.

Material Safety Data Sheet
Mercury

Decomposition Temperature: No information found.
Solubility in water: Insoluble in water.
Specific Gravity/Density: 13.59 (water=1)
Molecular Formula: Hg
Molecular Weight 200.59

Section 10 - Stability and Reactivity

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

High temperatures, incompatible materials.

Incompatibilities with Other Materials

metals, aluminum, ammonia, chlorates, copper, copper alloys, ethylene oxide, halogens, iron, nitrates, sulfur, sulfuric acid, oxygen, acetylene, lithium, rubidium, sodium carbide, lead, nitromethane, peroxyformic acid, calcium, chlorine dioxide, metal oxides, azides.

Hazardous Decomposition Products

Mercury/mercury oxides.

Hazardous Polymerization

Has not been reported.

Section 11 - Toxicological Information

RTECS:

CAS# 7439-97-6: OV4550000.

LD50/LC50:

CAS# 7439-97-6:
No information found.

Carcinogenicity:

CAS# 7439-97-6
ACGIH: as Hg: A4-not classifiable as a human carcinogen
IARC: Group 3 carcinogen (listed as '** undefined **').

Epidemiology:

Intraperitoneal, rat: TDLo = 400 mg/kg/14D-I (Tumorigenic - equivocal tumorigenic agent by RTECS criteria - tumors at site of application).

Teratogenicity:

Inhalation, rat: TCLo = 1 mg/m3/24H (female 1-20 day(s) after conception) Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus).

Reproductive:

Inhalation, rat: TCLo = 890 ng/m3/24H (male 16 week(s) pre-mating) Paternal Effects - spermatogenesis (incl. genetic material, sperm morphology, motility, and count).; Inhalation, rat: TCLo = 7440 ng/m3/24H (male 16 week(s) pre-mating) Fertility - post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants).

Mutagenicity

Cytogenetic Analysis: Unreported, man = 150 ug/m3.

Material Safety Data Sheet
Mercury

Neurotoxicity

The brain is the critical organ in humans for chronic vapor exposure; in severe cases, spontaneous degeneration of the brain cortex can occur as a late sequela to past exposure.

Other:

See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity:

In aquatic systems, mercury appears to bind to dissolved matter or fine particulates, while the transport of mercury bound to dust particles in the atmosphere or bed sediment particles in rivers and lakes is generally less substantial. The conversion, in aquatic environments, of inorganic mercury cmpd to methyl mercury implies that recycling of mercury from sediment to water to air and back could be a rapid process.

Environmental:

Mercury bioaccumulates and concentrates in food chain (concentration may be as much as 10,000 times that of water). Bioconcentration factors of 63,000 for freshwater fish and 10,000 for salt water fish have been found. Much of the mercury deposited on land, appears to revaporize within a day or two, at least in areas substantially heated by sunlight.

Physical:

All forms of mercury (Hg) (metal, vapor, inorganic, or organic) are converted to methyl mercury. Inorganic forms are converted by microbial action in the atmosphere to methyl mercury.

Other:

No information found.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

RCRA P Series Wastes

None of the components are on this list.

RCRA U Series Wastes

CAS# 7439-97-6: waste number U151.

Section 14 - Transport Information

	US DOT	Canadian TDG
Shipping Name:	RQ, MERCURY	No information found.
Hazard Class:	8	
UN Number:	UN2809	
Packing Group:	III	

Section 15 - Regulatory Information

US Federal

Material Safety Data Sheet
Mercury

TSCA

CAS# 7439-97-6 is listed on the TSCA Inventory.

Health and Safety Reporting List

None of the components are on this list.

Chemical Test Rules

None of the components are on this list.

TSCA Section 12b

None of the components are on this list.

TSCA Significant New Use Rule (SNUR)

None of the components are on this list.

SARA Reportable Quantities (RQ)

CAS# 7439-97-6: final RQ = 1 pound (0.454 kg)

SARA Threshold Planning Quantities (TPQ)

None of the components are on this list.

SARA Hazard Categories

CAS# 7439-97-6: acute, chronic.

CERCLA/SARA Section 313

This material contains MERCURY (CAS# 7439-97-6, 100%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.

Clean Air Act - Hazardous Air Pollutants (HAPs)

CAS# 7439-97-6 (listed as ** undefined **) is listed as a hazardous air pollutant (HAP).

Clean Air Act - Class 1 Ozone Depletors

None of the components are on this list.

Clean Air Act - Class 2 Ozone Depletors

None of the components are on this list.

Clean Water Act - Hazardous Substances

None of the components are on this list.

Clean Water Act - Priority Pollutants

CAS# 7439-97-6 is listed as a Priority Pollutant under the CWA.

Clean Water Act - Toxic Pollutants

CAS# 7439-97-6 is listed as a Toxic Pollutant under the CWA.

OSHA - Highly Hazardous

None of the components are on this list.

US State

State Right to Know

MERCURY can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

California Regulations

WARNING: This product contains MERCURY, a chemical known to the state of California to cause birth defects or other reproductive harm.
CAS# 7439-97-6: No information found.

European/International Regulations

Material Safety Data Sheet
Mercury

European Labelling in Accordance with EC Directives:

Hazard Symbols: T
Risk Phrases: R 23 Toxic by inhalation.
R 33 Danger of cumulative effects.
Safety Phrases:
S 45 In case of accident of if you feel unwell, seek medical advice immediately (show the label where possible).
S 7 Keep container tightly closed.

WGK (Water Danger/Protection)

CAS# 7439-97-6: 3

United Kingdom Occupational Exposure Limits

CAS# 7439-97-6: OES-United Kingdom, STEL (listed as ** undefined **): as Hg: 0.15 mg/m3 STEL (does not include mercury alkyls)

Canadian DSL/NDSL

CAS# 7439-97-6 is listed on Canada's DSL List.

Canadian WHMIS Classifications

This product has a WHMIS classification of D2A, E.

Canada Ingredient Disclosure List

CAS# 7439-97-6 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 7439-97-6: OEL-ARAB Republic of Egypt:TWA 0.05 mg/m3
OEL-AUSTRALIA:TWA 0.1 mg/m3;Skin
OEL-BELGIUM:TWA 0.1 mg/m3;Skin
OEL-FINLAND:TWA 0.05 mg/m3
OEL-FRANCE:TWA 0.05 mg/m3;Skin (vapor)
OEL-FRANCE:TWA 0.1 mg/m3;Skin
OEL-HUNGARY:TWA 0.02 mg/m3;STEL 0.04 mg/m3
OEL-POLAND:TWA 0.05 mg/m3
OEL-SWEDEN:TWA 0.05 mg/m3 (vapor)
OEL-SWITZERLAND:TWA 0.005 ppm (0.05 mg/m3);Skin (vapor)
OEL-SWITZERLAND:TWA 0.01 mg/m3;Skin
OEL-TURKEY:TWA 0.1 mg/m3;Skin
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV
OEL-AUSTRALIA:TWA 0.05 mg(Hg)/m3;Skin JANUARY 1993
OEL-BELGIUM:TWA 0.05 mg(Hg)/m3;Skin JANUARY 1993
OEL-CZECHOSLOVAKIA:TWA 0.05 mg(Hg)/m3;STEL 0.15 mg(Hg)/m3
OEL-DENMARK:TWA 0.05 mg(Hg)/m3 JANUARY 1993
OEL-FINLAND:TWA 0.05 mg(Hg)/m3 JANUARY 1993
OEL-FRANCE:TWA 0.05 mg(Hg)/m3 JANUARY 1993
OEL-GERMANY:TWA 0.01 ppm (0.1 mg(Hg)/m3) JANUARY 1993
OEL-HUNGARY:TWA 0.02 mg(Hg)/m3;STEL 0.04 mg(Hg)/m JANUARY 1993
OEL-JAPAN:TWA 0.05 mg(Hg)/m3 JANUARY 1993
OEL-THE NETHERLANDS:TWA 0.05 mg(Hg)/m3;STEL 0.15 mg(Hg)/m3
OEL-THE PHILIPPINES:TWA 0.05 mg(Hg)/m3 JANUARY 1993
OEL-POLAND:TWA 0.01 mg(Hg)/m3 JANUARY 1993
OEL-RUSSIA:TWA 0.05 mg(Hg

Material Safety Data Sheet
Mercury

Section 16 - Other Information

MSDS Creation Date: December 12, 1997
Revision Date: Original. Original.

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if Fisher has been advised of the possibility of such damages.

APPENDIX C

JEROME METER

AMBIENT AIR SAMPLING FIELD LOG

Project: Nicor Gas Location: Chicago Heights Iron & Supply Co.

Project Number: Date: _____ Sampler: _____

Time	Location	mg/m^3	Remarks/Weather

APPENDIX D

MATERIAL SAFETY DATA SHEET

I Product: Hg CLEANING SOLUTION (HgCS-102)

Description: Clear Liquid

Date Prepared: July 1999

Manufacturer
CHEMICAL SOLUTIONS INT'L. CORP.
P.O. Box 891185
Houston, TX 77289-1185

Emergency Telephone No.
(281) 992-3031
(800) 424-4804
E-mail: jimarnold@chemicalsolutionsintl.com
Home Page: www.chemicalsolutionsintl.com

II Health Hazard Data

HEALTH HAZARD (Acute & Chronic)
SKIN: Concentrate will dry out and chap sensitive skin as would detergent.
EYES: May cause discomfort.
INHALATION of fumes may upset stomach.

SIGNS AND SYMPTOMS OF EXPOSURE

SKIN: Dryness, redness, chapping.
EYES: Tearing, redness, blurred vision.

INGESTION may cause vomiting.
FIRST AID: EYES:Flush 15 minutes with water. wash with soap & water. INHALATION: Move to fresh air. Apply artificial respiration if breathing has stopped. INGESTION: Do not induce vomiting. If any irritation persists, seek medical attention.

III Hazardous Ingredients

Hg CLEANING SOLUTION is a proprietary formulations which contains small amounts of minerals and organics.
This product should be handled accordingly.
Complies with OSHA 29 CFR XVIII-1900.1200 Section (i) "Trade Secrets".
Contains no hazardous components under current OSHA definitions.

IV Special Protection and Precautions

Hygienic Practices: Wear goggles or face shield.Rubber gloves.

Work Practices: Wash after each shift. Remove and wash contaminated clothing before re-use.

Other Protective Clothing: Long sleeved shirt buttoned at neck is desirable, rubber boots.

V Precautions for Safe Handling & Use

If material is spilled remove leaking package to safe area.
Flush with water.
Disposal: Any approved method for dilute cleaner. Surfactants are highly biodegradable.

VI Reactivity Data

Stable under normal use and storage conditions.
Incompatible with strong oxidizing agents. Hazardous decomposition or byproducts - oxides of carbon.

VII Physical Data

pH.....10.5
Solubility in water.....100%
Specific Gravity.....1.06
Boiling Point.....212^0 F
Vapor Pressure.....Same as water
Vapor Density (Air=1).....Same as water
Evaporation Rate (Butyl Acetane=1).....< 1
Appearance & Odor - Clear liquid with medium viscosity and syntethic cleaner odor.

VIII Fire and Explosion Data

Flash Point/Method Used.....None/COC.

IX Control Measures

Respiratory Protection: Not Necessary.
Ventilation: Local Exhaust/Desirable. Mechanical/Helpfull in congested area.

(Complies with OSHA 174, Sep. 1985)

HMIS CODE: Health 1 Flammability 0 Reactivity 0 Personal Protection B

SPILFYTER®

INNOVATIVE SPILL CONTROL PRODUCTS

Revised 05/12/98

Product Nos. 520250

INSTRUCTION SHEET
Mercury Spill Kit

To Be Used By Personnel Trained In Cleaning–up Mercury Spills.

CAUTION

- Mercury Spills are Toxic;
- Mercury vaporizes; Mercury is absorbed directly through the skin, and by inhalation;
- Threshold Limit Values (TLVs) for Mercury and Mercury Vapors are low.

1. Evacuate employees from the spill area.
2. Personal Protective Equipment for exposure to Mercury should be worn.
3. Ventilate the contaminated area.
4. Collect all visible Mercury, using the wooded spatula and Mercury Aspirator bottle: empty the aspirator into the Mercury Waste bottle.

USE OF MERCSORB™ Powder

5. Follow the directions on the MERCSORB™ Powder Instruction Sheet.

USE OF MERCURY INDICATOR (CONTROL) Powder

6. Follow the directions on the MERCURY INDICATOR (CONTROL) Powder Instruction Sheet.

USE OF MERCURY VAPOR SUPPRESSOR

7. Sprinkle MERCURY VAPOR SUPPRESSOR on all contaminated areas. No area contaminated by Mercury should be left untreated. If left untreated, Mercury Vapors will continue to be given off.

   All used articles are contaminated, including the used MERCSORB™ Powder, MERCURY INDICATOR (CONTROL) Powder, and the used MERCURY VAPOR SUPPRESSOR: as well as: any other articles which were used during the clean-up process of the Mercury spill.

   All contaminated articles are considered as toxic waste and must be disposed of in accordance with all local, state, and federal regulations.

Kit Absorbency Capacity: 25ml (337 g) of Mercury.

Note: Depending on the size, the extent, and the type of spill, additional equipment may be needed.

WARNING: Once this product is used in picking-up a mercury spill, this product will take on the characteristics of the mercury absorbed and should be handled accordingly.

For additional information on this product or any other SPILFYTER Products write or call:

J.V. Manufacturing Company, Inc.
963 Ashwaubenon Street, Green Bay, WI 54304 920-337-4944 **Customer Service 1-800-334-9092 Fax 920-337-6282**

Form No. PL-I520250

SPILFYTER®
INNOVATIVE SPILL CONTROL PRODUCTS

Revised 05/12/98
Product Nos. 523250, 523500

INSTRUCTION SHEET
Mercury Indicator (Control) Powder

To Be Used By Personnel Trained In Cleaning–up Mercury Spills.

CAUTION

- Mercury Spills are Toxic;
- Mercury vaporizes; Mercury is absorbed directly through the skin, and by inhalation;
- Threshold Limit Values (TLVs) for Mercury and Mercury Vapors are low.

1. Evacuate employees from the spill area.
2. Personal Protective Equipment for exposure to Mercury is recommended.
3. Ventilate the contaminated area.

The balance of these instructions are directed towards checking for the presence of Mercury once all visible Mercury has been properly collected.

USE OF MERCURY INDICATOR (CONTROL) POWDER

To check for the presence Mercury:

4. a. **FOR HORIZONTAL SURFACES:** Sprinkle MERCURY INDICATOR (CONTROL) Powder over the contaminated area.

   b. **FOR VERTICAL SURFACES:** Mix 1 part MERCURY INDICATOR (CONTROL) Powder with 4 parts water, to form a slurry. Paint the slurry onto the contaminated vertical surface.

   c. The MERCURY INDICATOR (CONTROL) Powder should be left on the contaminated surface for 24-hours.

   d. A color change of pink to reddish-brown spots indicate point contamination. Large black spots, or black areas, indicate fresh or extensive Mercury contamination.

   e. Collect the MERCURY INDICATOR (CONTROL) Powder and place in a temporary disposal bag.

5. Clean-up remaining Mercury contaminated area by physical and chemical means.
6. Repeat Step #4 and #5.
7. All used articles are contaminated, including the used MERCURY INIDICATOR (CONTROL) Powder, plastic mixing tub, paint brush, Personal Protective Equipment, temporary disposal bag, etc. all must be disposed of as toxic waste in accordance with all local, state, and federal regulations.

Note: Depending on the size, the extent, and the type of spill, additional equipment may be needed.

WARNING: Once this product is used in picking-up a mercury spill, this product will take on the characteristics of the mercury absorbed and should be handled accordingly.

For additional information on this product or any other SPILFYTER Products write or call:

J.V. Manufacturing Company, Inc.
963 Ashwaubenon Street, Green Bay, WI 54304 920-337-4944 **Customer Service 1-800-334-9092 Fax 920-337-6282**

Form No. PL-I523250

SPILFYTER®
INNOVATIVE SPILL CONTROL PRODUCTS

Revised 05/11/98
Product Nos. 520270, 521000, 522500

INSTRUCTION SHEET
MERCSORB™ Powder

To Be Used By Personnel Trained In Cleaning –up Mercury Spills.

MERCSORB™ Powder was designed to make cleaning up mercury spills from work surfaces, cracks, and other hard-to-reach areas easier and safer by converting elemental mercury into an amalgam which removes the dangerous mercury vapors.

MERCSORB Powder

Product Nos.	Sorbency/Case*	Qty/Case
520270	25 ml (0.75 lbs.)	25 ml (0.75 lbs.)
521000	92 ml (2.75 lbs.)	92 ml (2.75 lbs.)
522500	230 ml (6.90 lbs.)	230 ml (6.90 lbs.)

Note: Mercury has a density of 13.55g/ml at 20^0 C (68^0 F).

APPLICATION INSTRUCTIONS

CAUTION

Mercury Spills are Toxic.
Mercury vaporizes; Mercury is absorbed directly through the skin, and by inhalation.
Threshold Limit Values (TLVs) for Mercury and Mercury Vapors are low.

1. Evacuate employees from the spill area.
2. Personal Protective Equipment for exposure to mercury should be worn.
3. Ventilate the contaminated area.

The balance of these instructions are directed to cleaning-up mercury droplets too small to be picked up as visible mercury.

USE OF MERCSORB™ POWDER

WARNING: Do not apply dry MERCSORB™ Powder to a Mercury Spill.

4. Activate the MERCSORB™ Powder by putting 2 ounces of MERCSORB™ Powder in a 9 ounce plastic mixing cup.
5. Apply just enough water to form a paste (about 1 ounce). Mix the MERCSORB™ Powder and water with a wooden spatula.
6. Apply a strip of the MERCSORB™ paste across the edge of the mercury contaminated area. Push the strip slowly across the contaminated surface with a wooden spatula. Apply the MERCSORB™ paste in one direction only. Small droplets of mercury will be absorbed into the MERCSORB™ paste.
7. Apply a second strip of the MERCSORB™ paste to the area and push the strip across the area a second time.
8. Put the contaminated MERCSORB™ paste into a sealed plastic container.
9. Scrub the contaminated area using a moist sponge and warm soapy water.
10. Dispose of the used MERCSORB™ paste, the wooden spatula, the mixing container, Personal Protective Equipment, and the temporary disposal container according to all local, state, and federal regulations.

WARNING: The used MERCSORB™ paste is still considered a toxic contaminant and should be handled accordingly.

Note: Depending on the size, the extent, and the type of spill, additional equipment may be needed.

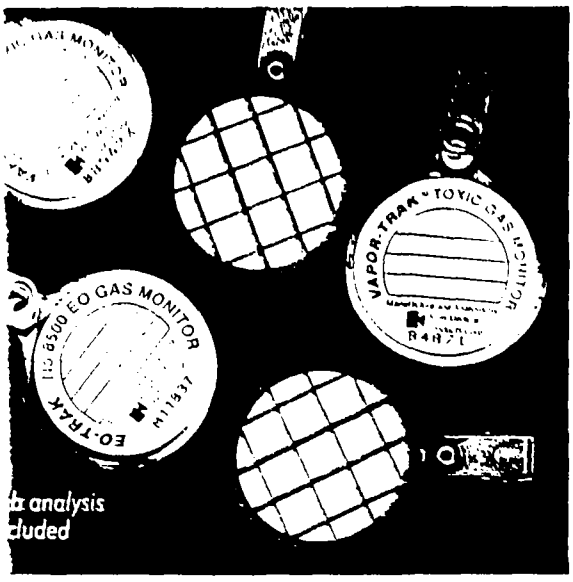
WARNING: Once this product is used in picking-up a mercury spill, this product will take on the characteristics of the mercury absorbed and should be handled accordingly.

For additional information on this product or any other SPILFYTER Products write or call:

J.V. Manufacturing Company, Inc.
963 Ashwaubenon Street, Green Bay, WI 54304 920-337-4944 **Customer Service 1-800-334-9092 Fax 920-337-6282**

Form No. PL-I520270

APPENDIX E



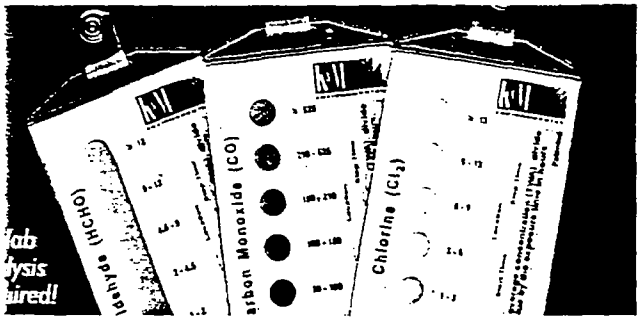
Personal Monitors

Monitor Exclusively for Many Critical Contaminants at a Very Reasonable Rate

Designed to be worn in an employee's breathing zone to measure their personal exposure limit to a variety of toxic vapors. Conveniently clips to pockets or lapels for simple on the spot sampling.

Specifications: All can be used for eight hour Time Weighted Average (TWA) or 15-min. Short-Term Exposure Limit (STEL) monitoring. *Organic Vapors* monitor measures benzene, ethylbenzene, toluene and xylene isomers. Price includes postage paid mailer and pre paid analysis. Badges are analyzed promptly and an analysis report is returned to you promptly. Only one lab is used, so each time you use these badges a historic update of your employee's exposure profile is provided. Box of four.

No.	Description	TLV ppm	Sensitivity ppm	Each Box of 4
0A-10579	Nitrous Oxide	50	2.0	220.90
0A-10580	Formaldehyde	0.3 (ceiling)	0.02	220.90
0A-10581	Xylene	100	0.02	220.90
0A-10582	Ethylene Oxide	*	0.02	219.30
0A-17075	Organic Vapors	-	0.02	242.85
0A-25352	Methylene Chloride	50	0.02	228.30



omAir™ Colorimetric Badges

ediate, Accurate Exposure Monitoring

easy-to-read color change. No lab analysis needed, no chem- mix. All exposure data and levels appear on the badge elim- time spent waiting for samples from the lab.

fications: Unique design minimizes the effects of humidity, locity and cross-sensitivity for increased exposure moni- accuracy. A convenient exposure dose scale is printed on ick of the badge to the side of each cell for a quick read of ure results. Box of ten. Refrigerate until use. Reusable *on Monoxide, Formaldehyde, Glutaraldehyde, Hydrogen le* and *Mercury Color Comparators* are available to se the resolution of the badges. Match the colors on the to the comparator for exact readings. *Badge Clips* ed for all badges except acetone and methanol.

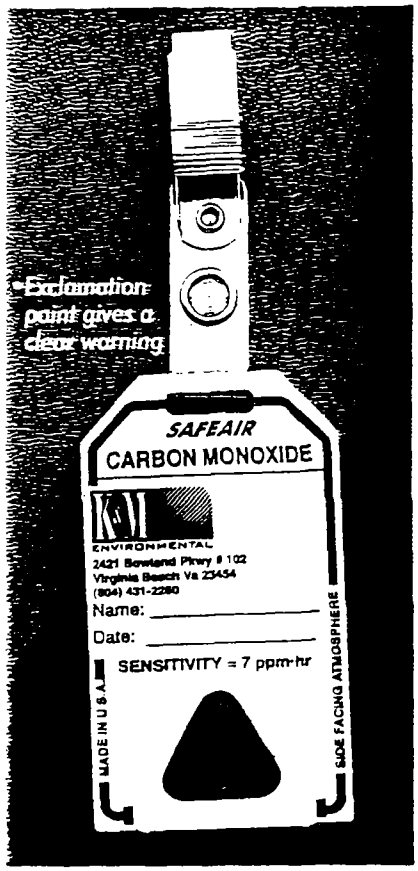
	Chemical	ppm x hr.	Min. Detectable Limit in 8 hrs.	Each
187	Acetone (clips included)	20–24,000	2.5	10/105.85
188	Ammonia	4–300	0.50	10/105.85
189	Carbon Monoxide	10–525	1.25	10/105.85
219	Carbon Monoxide Color Comparator			ea./53.50
190	Chlorine	0.4–13	0.05	10/105.85
191	Formaldehyde	3–12	0.04	10/105.85
165	Formaldehyde Color Comparator			ea/53.50
193	Glutaraldehyde	STEL (15 min.)	04–.95	10/105.85
166	Glutaraldehyde Color Comparator			ea/47.95
217	Hydrazine	0.01–0.8	0.002	10/123.05
193	Hydrogen Sulfide	1–240	0.25	10/105.85
220	Hydrogen Sulfide Color Comparator			ea./53.50
196	Mercury	0.15–1.4mg/m³	0.02mg/m³	10/105.90
257	Mercury Color Comparator			ea./53.45
194	Methanol (clips included)	27–3200	3.38	10/105.85
218	Methyl Ethyl Ketone	18–21,600	2.25	10/105.85
195	Nitrogen Dioxide	0.5–150	0.06	10/105.85
258	Ozone	0.08–1.6	0.01ppm	10/105.85
196	Sulfur Dioxide	0.1–16	0.02	10/105.85
244	Badge Clips			10/8.25

SafeAir™ Badges

Inexpensive. Easy-to-Use Screening Devices

Badges are economical enough for daily exposure screening, with no lab analysis required. Can be used for as little as 15 minutes or as long as several hours (see maximum recommended sampling time listed below).

Specifications: Immediate visual indication lets you know when a specific chemical is present at the threshold level listed below. Unmistakable results—chemical exposure causes an exclamation point to change color. Package of 50. Refrigerate until use. Badges simply clip on your pocket or lapel. *Clips* are sold separately in packages of 10.



No.	Chemical	Threshold Level ppm x hr.	Minimum Detectable Limit in 8 hrs.	Maximum Recommended Sampling Time	Each Pkg. of 50
0A-26597	Ammonia	4.0	0.50	48 hrs.	140.10
0A-33921	Carbon Dioxide	5000	1000	10 hrs.	148.15
0A-26599	Carbon Monoxide	7.0	1.0	10 hrs.	140.10
0A-26598	Chlorine	0.2	0.025	48 hrs.	140.10
0A-26602	Formaldehyde	0.1	.05	10 hrs.	140.10
0A-33922	Hydrazine	3.0ppb	1.0ppb	48 hrs.	182.55
0A-26661	Hydrogen Sulfide	2.0	0.25	48 hrs.	137.00
0A-26603	Mercury	0.15–1.4	0.01–0.02mg/m³	96 hrs.	172.80
0A-26662	Nitrogen Dioxide	1.0	0.125	10 hrs.	140.10
0A-26600	Ozone	0.05	0.006	48 hrs.	140.10
0A-26663	Sulfur Dioxide	0.2	0.02	48 hrs.	140.10
0A-26601	TDI	0.02	0.002	10 hrs.	156.45
0A-26544	Clips, Pkg. of 10				8.25